ABSTRACT OF THE DISCLOSURE

[33] A rotor system includes a hydraulic pressure system located within a rotor shaft along an axis or rotation. The hydraulic pressure system is within the rotating field such that fluid pressure is generated and supplied from within the rotational field without the need to cross a rotational interface. Differential rotation between the rotor shaft and a standpipe rotates a hydraulic pump body relative a hydraulic pump shaft. The hydraulic pressure system is contained within a support structure so as to be readily mounted and removed from the rotor hub for replacement or maintenance. A gear system is mounted to the support structure between the standpipe and the hydraulic pump shaft to step-up or step-down the relative rotation between the rotor shaft and the standpipe.

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